UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/662,258	09/14/2000	Judith E. Schwabe	SUN-P4175	1082

7590 11/20/2002

D'Alessandro & Ritchie
P O Box 640640
San Jose, CA 95164-0640

EXAMINER
GODDARD, BRIAN D

ART UNIT	PAPER NUMBER
2171	

DATE MAILED: 11/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/662,258	Applicant(s) SCHWABE, JUDITH E.	
	Examiner Brian Goddard	Art Unit 2171	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 October 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 September 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2,3,4* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 26 and 28 mentioned on page 10, line 6.

2. Furthermore, the drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 105, 110, 115, 120, 125, and 130 in Figs. 4A & 4B, and 200, 205, 210, 215, and 220 in Figs. 6B & 6C.

3. Next, the drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "12" has been used to designate both the Object class in Fig. 1B and 'a bus' with reference to Fig. 2A on page 10, line 4.

4. Finally, the drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the list structure of listing classes and interfaces separately in claim 3 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction, corrected drawings, or amendment to the specification to clarify the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

5. Claims 11 and 13 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claims, or amend the claims to place the claims in proper dependent form, or rewrite the claims in independent form.

Claim 11 depends from claim 9, which already recites the sole limitation presented in claim 11. Claim 13 depends from claim 11, and recites the exact same limitations that claim 9 has already recited. Thus, both claim 11 and claim 13 fail to further limit the subject matter of claim 9, on which they depend. However, due to the structure and organization of the claims, it appears that claim 11 is intended to provide further limitation to claim 10, while claim 13 is intended to provide further limitation to claim 12. In the interest of compact prosecution, the examiner assumes that claim 11 should be dependent upon claim 10 instead of claim 9, and claim 13 should be dependent upon claim 12 instead of claim 11. Thus, claim 11 should recite, "The program storage device of claim 10...", and claim 13 should recite, "The program storage device of claim 12...."

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Referring to claim 9, the preamble of the claim recites, "The program storage device of claim 7...." However, claim 7 recites a method, not a program storage device. Therefore, it is unclear how claim 9 can be dependent upon claim 7. Claim 8 does recite a program storage device. Furthermore, claim 8 is the independent claim that immediately precedes claim 9 in the flow of claims. In the interest of compact prosecution, the examiner assumes that claim 9 should depend upon claim 8 instead of claim 7. Thus, the preamble of claim 9 should read, "The program storage device of claim 8...."

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1, 2, 5, 6, 8, 9, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,230,318 to Halstead et al.

Referring to claim 1, Halstead discloses a system and method for representing an application programming interface definition for an object-oriented library by generating a configuration file containing a hierarchical representation of the Java

classes (tools) available for use in programming. See Figures 2-4 and the corresponding portions of the specification for this disclosure. Halstead's method is disclosed as follows:

creating ['Step 411 creates' (Column 11, line 61)] a list ['configuration file 234' (Column 11, line 61. Also see Column 8, lines 38-44)] of public elements ['tools' (Column 5, line 48)], each of said public elements including a sublist of all public related elements for the element ['lists the...parent-child relationships' among tools (Column 8, lines 38-44. Also see column 2, line 65 et seq. and column 10, lines 8-36)]; and

storing said list ['by copying' to the property store (Column 11, lines 61-63)].

Halstead's 'tools' are Java classes, and more specifically are public classes (elements) available for application programming. See Figure 2 and column 4, line 48 et seq. of Halstead's specification for this disclosure. Halstead does not explicitly state that the configuration file (hierarchical list of tools) is created by listing public elements from a library as claimed. However, Halstead does state that programmers commonly use components (classes) taken from a library to build application programs. See column 1, lines 36-48 for this disclosure. This provides direct suggestion for building Halstead's configuration file by listing the public classes from an object-oriented library.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to create Halstead's configuration file by listing the public classes from a Java library as the 'tools' available through the API to obtain the claimed method. One would have been motivated to do so because Halstead provides direct suggestion as described above.

Referring to claim 2, Halstead's method as described above with regard to claim 1 discloses the method as claimed. Halstead's tools (public elements) comprise classes (Again, see column 4, line 48) and interfaces (233) as claimed in the second limitation of claim 2. See Figure 2 and the corresponding portion of the specification for this disclosure. Halstead's public related elements (listed parent-child relationships) are parent tools, which comprise classes and interfaces hierarchically above (superclasses and superinterfaces) the current tool in the tree as claimed in the third limitation of claim 2. See Figures 2 & 3, column 9, lines 8-36 and column 2, line 65 et seq. for this disclosure. Note specifically the format of the configuration file list entry shown in column 9, lines 25-30 in light of the disclosures from column 2, line 65 to column 3, line 10 and column 9, lines 10-11. This entry shows that for each tool (represented by 'name'), the properties ('property1', 'property2', etc.) that the tool inherits are listed as the parent tools (comprising the superclasses and superinterfaces for that tool).

Halstead's method, as modified above with regard to claim 1, creates the configuration file from a library, but not explicitly a Java package. However, Halstead's system is based on Java classes as mentioned above. Therefore, in making the modification as above, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a Java package as the library to create the configuration file from. One would have been motivated to do so because Halstead's system already uses Java classes as the tools listed within the configuration file.

Referring to claim 5, Halstead discloses a method for determining a program hierarchy as claimed. Halstead's system copies (receives) a configuration file

(application programming interface definition file) in step 411 shown in Figure 4. See Figure 4 and the corresponding portion of the specification for this disclosure. The format of the configuration file is exactly as claimed. See the discussion above regarding claim 1 for the details of this disclosure. Halstead does not explicitly disclose the second step of the claimed method. However, Halstead's system does analyze the hierarchy set forth in the configuration file when a resource is requested from a tool or when a new tool is added to the system. See column 11, lines 33-56 for this disclosure.

Halstead does not explicitly disclose how a direct parent of a tool (public element) is found, but simply states that the system does find a tool's parent in order to traverse the hierarchy in the situations mentioned above. However, looking at the structure of Halstead's configuration file described above with regard to claims 1 and 2, one can infer that the direct parent of a specific tool is represented in the sublist of that tool, but is not represented in the sublist of any other tools listed in that tool's sublist. In other words, in order to traverse Halstead's hierarchy, a first tool's direct parent can be found by searching that first tool's sublist to find the second tool that is not listed in the sublist for any other tool in the first tool's sublist.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to program Halstead's system to traverse the configuration file's hierarchy by finding a first tool's direct parent by searching that first tool's sublist to find the second tool that is not listed in the sublist for any other tool in the first tool's sublist as claimed. One would have been motivated to do so because this method is easily

inferred from the structure of the configuration file, and seems to be the only method for traversing the hierarchy possible.

Referring to claim 6, the method of Halstead as discussed above with regard to claim 5 discloses the invention as claimed. See the discussion above regarding claims 1 and 2 for the details of this disclosure.

Referring to claim 8, the method of Halstead as discussed above with regard to claim 1 discloses the invention as claimed. Note that Halstead's method is implemented by computer-executable instructions stored as program modules on a personal computer. See Figure 1 and the corresponding portion of the specification, specifically column 3, lines 30-48 for this disclosure. Referring to claim 9, the system and method of Halstead as discussed above with regard to claim 2 discloses the invention as claimed. See also the discussion of claim 8 for the details of this disclosure.

Referring to claim 12, the system and method of Halstead as discussed above with regard to claim 5 discloses the invention as claimed. See also the discussion regarding claim 8 for the details of this disclosure. Referring to claim 13, the system and method of Halstead as discussed above with regard to claim 6 discloses the invention as claimed. See also the discussion regarding claim 8 for the details of this disclosure.

8. Claims 3, 4, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Halstead as applied to claims 1 and 2 above, and further in view of

applicant's admitted prior art of page 2, line 18 – page 3, line 5 of the instant specification.

Referring to claim 3, the method of Halstead as discussed above with regard to claims 1 and 2 discloses the method as claimed. See the discussion above regarding claims 1 and 2 for the details of this disclosure. Halstead's configuration file does not list the classes separately from the interfaces as claimed. Instead, the configuration file only lists the tools and their parent tools in a sublist for each tool. Each tool then has its class and interfaces defined within the tool definition. This provides direct suggestion for separating the classes from the interfaces.

Applicant's admitted prior art of page 2, line 18 – page 3, line 5 discloses that API definition files typically include the available classes and interfaces separately, along with the immediate superclass and superinterface for each class and interface.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Halstead's system such that when building the configuration file, the classes and interfaces for each tool would be listed separately instead of just the name of the tool, and the superclasses and superinterfaces would be listed in the sublists instead of just the parent tool names. One would have been motivated to do so because this is the typical format of such a file, as disclosed by applicant's admitted prior art.

Referring to claim 4, the method of Halstead in view of applicant's admitted prior art as discussed above with regard to claim 3 discloses the invention as claimed. See the discussion above regarding claims 1-3, specifically the discussion of the first

limitation of claim 2, for the details of this disclosure. Referring to claim 10, the system and method of Halstead in view of applicant's admitted prior art as discussed above with regard to claim 3 discloses the invention as claimed. See also the discussion regarding claim 8 for the details of this disclosure. Referring to claim 11, the system and method of Halstead in view of applicant's admitted prior art as discussed above with regard to claim 4 discloses the invention as claimed. See also the discussion regarding claim 8 for the details of this disclosure.

9. Claims 7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Halstead as applied to claims 5 and 12 above, and further in view of U.S. Patent No. 5,974,255 to Gossain et al.

Referring to claim 7, Halstead's method of analyzing the hierarchy of a configuration file as discussed above with regard to claim 5 does not disclose the steps of comparing two hierarchies and indicating an error when they are inconsistent as claimed. However, Halstead does disclose a need to maintain consistency of the hierarchy when the API is changed or when a new tool is added. See column 2, lines 15-30 and column 10, lines 45-52 for this disclosure. This provides suggestion for examining the hierarchy of an API with an expected hierarchy to maintain consistency.

Gossain discloses a method for testing the inheritance hierarchy of an object-oriented class structure by comparing the active hierarchy to a test hierarchy stored within the system. See the Figure and the Detailed Description of the Drawing section for this disclosure. Refer specifically to column 3, lines 6-14. Gossain teaches the two claimed steps as follows:

Comparing [step 18] a first program hierarchy [hierarchy of class under test (11)] with a second program hierarchy [test class hierarchy (12)]; and

Indicating an error [Column 3, lines 9-10] when said first program hierarchy is inconsistent ['when a difference between the current state and expected state...is detected' (Column 3, lines 7-8)] with said second program hierarchy.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Gossain's method for testing class hierarchies into Halstead's system such that the system would compare the hierarchy reconstructed from a configuration file with the hierarchy reconstructed from a test configuration file, and indicate an error when the two hierarchies were inconsistent. One would have been motivated to do so because of Halstead's suggestion described above.

Referring to claim 14, the system and method of Halstead in view of Gossain as described above with regard to claim 7 discloses the invention as claimed. See also the discussion above regarding claim 8 for the details of this disclosure.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,011,918 to Cohen et al. discloses a system and method for generating client/server applications by defining the relationships between classes in an object-oriented system.

U.S. Patent No. 5,408,665 to Fitzgerald discloses a system and method for generating a dependency list of objects from library files in an object-oriented system.

U.S. Patent No. 6,243,859 to Chen-Kuang, U.S. Patent No. 6,263,492 to Fraley et al, U.S. Patent No. 6,125,442 to Maves et al, and U.S. Reissued Patent No. RE37,722 to Burnarrd et al. each disclose a system and method when secondary relevance to the claimed invention.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Goddard whose telephone number is 703-305-7821. The examiner can normally be reached on M-F, 9 AM - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 703-308-1436. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

bdg
November 15, 2002

SAFET METJAHIC
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100